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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/090,060	03/01/2002	Caidian Luo	HARD1.033A	4640

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EXAMINER
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MARCANTONI, PAUL D

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 12/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/090,060		LUO ET AL.	
	<b>Examiner</b>		<b>Art Unit</b>	
	Paul Marcantoni		1755	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-8 and 39-42 is/are pending in the application.
- 4a) Of the above claim(s) 42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-8, and 39-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-4, 6-8 and 39-42 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Applicant's election without traverse of Group I, claims 1-4, 6-8, and 39-41

WITHOUT traverse in the reply filed on 9/26/06 is respectfully acknowledged.

Obviousness Double Patenting:

Claims 1-4, 6-8, and 39-41 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-52, 1-78, and 1-72 of U.S. Patent Nos. 6,676,745 B2 (Merkley et al.), 6,346,146 B1 (Duselis et al.), and 6,506,248 B1 (Duselis et al.) in view of Babachev et al. (see abstract).

All primary references to the James Hardie Research (which appears to be the same common assignee for instant applicants) teach a composition comprising cement, cellulose reinforcing binder, and dispersants or plasticizers. A plasticizer is a dispersant as is a water reducing agent and surfactant. These primary references do not teach the use of a quaternary amine dispersant as is now claimed in independent claim 1. However, the use of a known or conventionally used or commonly used dispersant or plasticizer would have been an obvious design choice for one of ordinary skill in the art. Babachev et al. teach that adding quaternary amine derivatives as plasticizers or surfactants (ie dispersants) in cements. It would have been an obvious design choice for one of ordinary skill in the art to thus add a conventional cement additive (dispersant or plasticizer) to one of the primary references which generally teach adding dispersants or plasticizers as conventional additives to cementitious compositions.

The examiner takes official notice that adding more than one reinforcing agent or more than one dispersing agent (both conventional additives to cement compositions) type would have been an obvious design choice for one of ordinary skill in the art. The

Art Unit: 1755

cement art is replete with examples of using more than one kind of fiber or combination of different fibers for reinforcement of a cement composition. Should applicants challenge this assertion, they should state so in their next response and the examiner will provide a reference to teach that this is factual. Should they not traverse the examiner's assertion, it can be taken as admitted prior art (See MPEP 2144.03). In the interests of avoiding any potential situation of undue multiplication of references (ie using too many or excessive numbers of references) which would not necessarily give the applicants a reasonable opportunity to respond, the examiner has taken official notice to cut down on the gross number of references. This is entirely proper as long as the addition of more than one fiber type or dispersant in the cement art *defies* dispute of what is commonly held in this art (See MPEP 2144.03 again).

*Note: An examiner is permitted to take official notice in such an instance.*

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Art Unit: 1755

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

35 USC 103:

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 6-8, and 39-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over, Johnstone et al. '676, or Naji et al. '447 alone or in view of Babechev et al. and Jardine et al. '952 B1.

Note: Jardine et al. (US Patent Application Pub 2002/0121229 A1) has been cited as relevant art because it also teaches quaternary amines as plasticizers for cement compositions (see paragraph [0009] on page 1). It should also be stressed that the examiner wishes to avoid instances where he is not being able to "*inspire the confidence*" of all interested parties to this application (not necessarily applicants) that adding a single extra reference to this rejection could conceivably result in catastrophic consequences.

The examiner therefore wishes to not create a situation of *undue multiplication of references* by using one extra reference. The examiner wishes to avoid any *future tempests in a teapot* therefore and has done his best to provide a rejection that gives applicants a "*reasonable opportunity*" to respond.

Jardine et al. '952 teach a composition comprising cement, aggregate (eg. fly ash or blast furnace slag which is commonly added to hydraulic cement-see col.3, lines 5-10). and plasticizer such as quaternary amines (col.2, lines 35-37). A plasticizer also

Art Unit: 1755

functions as a dispersant yet Jardine '952 further teaches the further addition of an additional dispersant such as a lignosulfonate (col.6, lines 65-67).

Johnstone et al. '676 teach a method of making gypsum wallboard and gypsum wallboard composition comprising mixing cellulosic fibers, calcium sulfate filler (hydraulic cement or cement binder), and a cationic retention agent such as quaternary amine starch derivatives (col.14, lines 60-65). The purpose of the quaternary amine starch cationic retention agent is promoting or aiding the reestention of sizing agents and for bringing the agents into close proximity to the pulp fibers (col.14, lines 53-56).

Naji et al. '447 teach mixing cementitious material, sand (aggregate-col.1, line 44), and plasticizers as well as dispersants (please note that these terms are "plural" so this means more than one plasticizer or dispersant can be added this composition), cellulosic fibers (col2, lines 5-10).

The examiner takes official notice that adding more than one reinforcing agent or more than one dispersing agent (both conventional additives to cement compositions) type would have been an obvious design choice for one of ordinary skill in the art. The cement art is replete with examples of using more than one kind of fiber or combination of different fibers for reinforcement of a cement composition. Should applicants challenge this assertion, they should state so in their next response and the examiner will provide a reference to teach that this is factual for mixed fiber types and dispersants in cement. Should they not traverse the examiner's assertion, it can be taken as admitted prior art (See MPEP 2144.03). In the interests of avoiding any potential situation of undue multiplication of references (ie using "too many" or "excessive"

Art Unit: 1755

numbers of references) which would not necessarily give the applicants a reasonable opportunity to respond, the examiner has taken official notice to cut down on the gross number of references. This is entirely proper as long as the addition of more than one fiber type or dispersant in the cement art “defies” dispute of what is commonly held in this art (See MPEP 2144.03 again).

It is further noted that claim 1’s limitation of being at least partially dewatered (ie the fibers or cellulose fibers which probably should be actually stated in claim 41 reads upon merely adding dry fibers to a cement mixture.

It is also noted for the 35 USC 103 and the ODP rejection that the applicants’ claims are not anticipated because the prior art would not appear to teach pre-treating cellulose fibers with the quaternaryamine dispersant initially before adding to the cement composition. In response to this point, changes in the sequence of adding ingredients (ie mixing in the quaternaryamine dispersant in a cement mixture or pretreating the cellulose fiber first with quaternary amine dispersant would have been obvious to one of ordinary skill in the art absent evidence to the contrary. Both methods though in a different order would lead to a coating on the surface of the cellulose fiber because both coat the fiber surface one of ordinary skill in the art would have expected the same resulting properties (ie hydrophobicity of fiber surface, inhibited bonding between hydroxyl groups of different fibers, reduce inter-fiber hydrogen bonding, and improved dispersion-see Claim 1) because the mixture (cellulose fiber + quaternaryamine) is the same. The following can be found in Chapter 2100 Patentability Chapter of the MPEP:

Art Unit: 1755

C. Changes in Sequence of Adding Ingredients

Ex parte Rubin , 128 USPQ 440 (Bd. App. 1959) (Prior art reference disclosing a process of making a laminated sheet wherein a base sheet is first coated with a metallic film and thereafter impregnated with a thermosetting material was held to render prima facie obvious claims directed to a process of making a laminated sheet by reversing the order of the prior art process steps.). See also In re Burhans, 154 F.2d 690, 69 USPQ 330 (CCPA 1946) (selection of any order of performing process steps is prima facie obvious in the absence of new or unexpected results); **In re Gibson, 39 F.2d 975, 5 USPQ 230 (CCPA 1930) (Selection of any order of mixing ingredients is prima facie obvious.)**.

35 USC 112 Second Paragraph:

Claims 1-4, 6-8, and 39-41 are rejected under 35 U.S.C. 112, second paragraph, as failing to set forth the subject matter which applicant(s) regard as their invention.

The terms "of different fibers" would appear indefinite in claim 1. Do you mean of different cellulose fibers or materially different fibers but including cellulose fibers? If you mean of different cellulose fibers please amend the claim that way in claim 1. This issue has been raised because applicants can add other materially different fibers as set forth in their claim 39.

Claim 41 states "the fibers" and it is vague. Do applicants mean –the cellulose fibers? If so, please amend the claim to specifically that.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Marcantoni whose telephone number is 571-272-1373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



Paul Marcantoni  
Primary Examiner  
Art Unit 1755